

U. S. DEPARTMENT OF COMMERCE

LEWIS L. STRAUSS, Secretary

WEATHER BUREAU

F. W. REICHELDERFER, Chief



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OPERATIVE ERE STORM ACTION IN ILLINOIS



Your part in the
Weather Bureau
ere Storm Warning Service



DIFFERENCE BETWEEN SEVERE WEATHER FORECASTS
AND SEVERE WEATHER WARNINGS

Tornadoes, and severe local thunderstorms are so small that the exact location where one will develop cannot be determined in advance. It is possible, however, to identify areas where one or more of these storms can be expected to occur. It is also possible to project the path of any dangerous storm reported and warn communities before disaster strikes. The U. S. Weather Bureau plan of operation includes both of these actions, one being known as a FORECAST and the other as a WARNING.

A FORECAST, issued for a valid period of several hours, is released to alert a comparatively large area to the possibility of tornadoes, or severe thunderstorms as the case may be. A forecast makes possible preliminary planning for safety precautions to be taken if a tornado is sighted, or if an announcement is received that a dangerous storm is approaching. When tornadoes are mentioned in a FORECAST, the storms that occur will be small and scattered. Many persons in the forecast area will not see a tornado.

A WARNING, usually issued for a period of one hour or less, is an advice that a severe local storm has been reported. The WARNING names the communities or local areas in the storm's path where immediate protective action should be taken.

On the following page are examples of tornado forecasts and tornado warnings.

It is known that a great many lives have been saved by this forecast and warning system, for which much credit goes to the many individuals and organizations cooperating with the Weather Bureau. However, the system is not infallible. Sometimes a forecast cannot be issued in advance of a warning, and sometimes a warning is not possible for lack of reports or because of sudden storm development. Increased cooperative effort and constant improvement in forecast methods are aimed toward providing advance public notice for all dangerous local storms.

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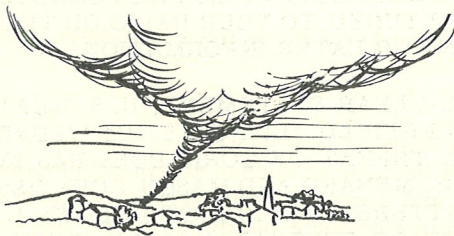
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TORNADO FORECAST -

"U. S. WEATHER BUREAU TORNADO FORECAST FOR CENTRAL ILLINOIS AND EXTREME EASTERN MISSOURI. SCATTERED SEVERE THUNDERSTORMS AND A FEW TORNADOES ARE POSSIBLE THIS AFTERNOON OVER AN APPROXIMATE AREA FORTY MILES EITHER SIDE OF A LINE FROM THIRTY MILES WEST OF ST. LOUIS, MISSOURI, TO CHAMPAIGN, ILLINOIS, DURING THE PERIOD FROM 2 PM TO 6 PM CST TODAY FRIDAY."

TORNADO WARNING -

"TORNADO WARNING, U. S. WEATHER BUREAU, CAIRO, ILLINOIS, 4 PM WEDNESDAY, APRIL 7. A CONFIRMED TORNADO WAS REPORTED BY STATE POLICE SEVEN MILES NORTHWEST OF ANNA, ILLINOIS, AT 3:55 PM. THIS TORNADO IS MOVING TOWARD THE NORTHEAST. PEOPLE IN THE VICINITY OF COBDEN AND MARION, ILLINOIS, SHOULD BE ON THE ALERT DURING THE NEXT 30 TO 60 MINUTES AND TAKE APPROPRIATE SAFETY PRECAUTIONS. IF THIS TORNADO IS SEEN IN YOUR AREA, PROMPTLY NOTIFY THE WEATHER BUREAU AT CAIRO, ILLINOIS, PHONE 216 COLLECT. AS ADDITIONAL INFORMATION BECOMES AVAILABLE, IT WILL BE BROADCAST BY THIS STATION."



HOW THE WEATHER BUREAU OPERATES IN ILLINOIS

The Chicago Forecast Center of the U. S. Weather Bureau has overall responsibility for weather forecasts in a seven-state north central area including all of Illinois. In addition, the Weather Bureau maintains a Severe Local Storms Forecast Center (abbreviated to "SELS" Center) at Kansas City, Mo. where specialists maintain a constant watch over all parts of the country for possible tornado and severe thunderstorm development. Whenever the SELS Center or the Forecast Center suspect that severe weather may develop, the two offices confer. If appropriate, a severe weather forecast is agreed upon and is transmitted by SELS Center to all Weather Bureau Offices concerned for immediate public release.

Ten Weather Bureau offices, each of which has responsibility for a group of counties, serve all of Illinois and receive storm reports from their networks of volunteer observers. When a tornado or severe thunderstorm is reported, or its existence is reasonably indicated on radar, the Weather Bureau office having responsibility for the threatened area issues a warning. Immediate distribution of the warning is given to reach every one possible in the path of the storm. The Appendix contains information about the Weather Bureau offices and lists the Illinois counties for which each has warning responsibility.

The Weather Bureau offices also issue follow-up statements for their areas, examples of which follow.

SEVERE WEATHER STATEMENT, U. S. WEATHER BUREAU, PEORIA ILLINOIS 2 PM THURSDAY JUNE 14. THUNDERSTORMS ARE STARTING TO DEVELOP NEAR PEORIA ILLINOIS AT 2 PM. THIS IS THE ONLY NEW DEVELOPMENT REPORTED SO FAR IN CENTRAL ILLINOIS WHERE A FEW SEVERE THUNDERSTORMS WITH DAMAGING WINDS ARE POSSIBLE UNTIL 6 PM. KEEP TUNED TO YOUR RADIO OR TELEVISION STATION FOR LATER INFORMATION.

ALL-CLEAR STATEMENT, U. S. WEATHER BUREAU SPRINGFIELD ILLINOIS 9 PM WEDNESDAY MAY 3. THE THREAT OF TORNAOES HAS NOW ENDED IN CASS, MENARD AND MASON COUNTIES OF ILLINOIS. SCATTERED THUNDERSTORMS WILL CONTINUE IN MOST OF CENTRAL ILLINOIS UNTIL ABOUT 1 AM CST.

ILLINOIS

Since offices of the U. S. Weather Bureau operate with small staffs, the Bureau could not provide adequate warning service except by the aid of a great many cooperators. These volunteers may assist as individuals, as members of Civil Defense or other groups, or as employees of cooperating organizations who assume this additional duty in an emergency. Each severe weather observer generally reports dangerous storms to the U. S. Weather Bureau office having responsibility for weather warnings in the county where the cooperator is located.

At Springfield, the Weather Bureau Meteorologist in Charge maintains contact and coordination with interested State of Illinois offices having headquarters in the state capital. These offices include the State Police and State Department of Education.

The Meteorologist in Charge at Chicago, (Mail address: U. S. Weather Bureau, 5730 South Woodlawn Avenue, Chicago 37, Illinois) maintains liaison for purposes of severe weather operations with organizations having state-wide service based in Chicago including the State of Illinois Civil Defense Agency, and has overall responsibility for coordination of cooperative severe weather activities among the various Weather Bureau offices serving Illinois.

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WHO ARE SOME OF THE COOPERATING GROUPS?

The following is a partial list of cooperating organizations or groups in Illinois: The Illinois State Police and other police organizations, Illinois Civil Defense Agency, the press associations, radio and television stations, newspapers, State Water Survey, public utility companies, and local communities. There are many others.

POLICE

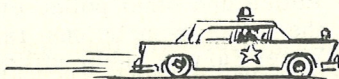
The Illinois State Police are an important link in distributing severe weather forecasts and warnings throughout the state to county sheriffs, city police, and others who monitor the State Police radio. County Sheriffs and local police make further distribution especially to schools, county or city Civil Defense groups, and public gatherings.

The State Police also forward reports of severe weather to the Weather Bureau, and may when warranted send a patrol car to observe and report on a storm.

Police may act as lookouts in strategic locations after a Severe Weather Forecast has been issued, in order to take quick action if a dangerous storm is sighted. They may also directly warn residents of the approach of a storm, especially if it is so close that time will not permit normal handling. In such cases the Weather Bureau should be notified as soon as possible, because it is in a position to judge the future movement of the storm and determine the need for additional warnings.

The central distribution point for Illinois State Police radio is at Springfield. The Weather Bureau sends all Illinois Severe Weather Forecasts and Warnings to Springfield as rapidly as possible for distribution over the system. All Illinois county sheriffs' offices except in the following counties are set up to constantly monitor the State Police radio: Calhoun (probably to begin monitoring soon), Gallatin, Hamilton, Hardin, Pope, and Pulaski.

Any person sighting a destructive storm, and not knowing how to report it immediately to the Weather Bureau, should report it to his city police or sheriff's office, or to the State Police.



STATE AND LOCAL CIVIL DEFENSE

City and county civil defense organizations in Illinois take an important part in severe weather operations because of similarity of the alerting, warning, and rescue activities to operations of Civil Defense in time of war. This program in Illinois is sponsored by the State of Illinois, Civil Defense Agency, Chicago, and is encouraged by the U. S. Office of Civil and Defense Mobilization.

Local Civil Defense Directors usually receive Severe Weather Forecasts and Warnings from county sheriffs or city police, and make additional local distribution as appropriate. The Directors may however depend primarily on local commercial radio or television broadcasts for forecasts, warnings, and follow-up information when it is known that such stations will broadcast promptly all the issuances applying to the city or a dangerous county.

For TORNADO WARNINGS (but no other type of weather forecast or warning) the use of the "Take Cover" Civil Defense Signal is authorized.

The functions of local Civil Defense groups in severe weather operations include the following, some of which are to assist with local police activities:

- a. Local Distribution of Severe Weather Forecasts and Warnings.
- b. Posting of lookouts at strategic locations on receipt of a Severe Weather Forecast.
- c. Reporting severe weather to the U. S. Weather Bureau.
- d. Mobilizing on a readiness or alert basis for possible rescue and first-aid operations and taking over these duties when an emergency develops.
- e. Selecting shelters and directing people to them in an emergency.
- f. Assuring that proper emergency measures are taken when a disaster occurs.

In some areas, Civil Defense groups have been active in establishing local storm reporting networks and warning procedures to insure that their communities will receive advance notice of approaching storms.

On February 1, 1959, the operation of the GROUND OBSERVER CORPS, formerly sponsored by the U. S. Air Force, was taken over in Illinois by the Illinois Civil Defense Agency. One important function of these posts is to report the occurrence of severe weather. They now act as a part of the local county or city Civil Defense organization, but each post is instructed to report storms directly to the U. S. Weather Bureau office having weather warning responsibility for the county. The posts are alerted by their local Civil Defense director when a Tornado or Severe Thunderstorm Forecast has been issued for the area.

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PRESS ASSOCIATIONS

Much dependence is placed on press associations to reach radio and television stations with Severe Weather Forecasts, Warnings, and follow-up statements issued by the Weather Bureau. The most certain and rapid distribution to any point in Illinois reached by either Associated Press or United Press International is, in general, out of Chicago. For that reason the Weather Bureau immediately places all severe weather forecasts on a Chicago local public service weather teleprinter circuit which goes directly to the press associations. All Illinois warnings are similarly distributed as quickly as they are received in Chicago. There is a similar local weather circuit to the press associations in St. Louis, Mo. In both Chicago and St. Louis, the local weather circuit also directly reaches most of the local radio and television stations.

The ASSOCIATED PRESS serves Illinois from its Chicago office, which operates with full staff 24 hours a day seven days a week. The A.P. in St. Louis, Mo. also directly serves radio stations in southern Illinois. The St. Louis office is closed 2 a.m. to 6 a.m. daily except 2 a.m. to 10:30 a.m. on Sundays. Other Associated Press offices are at Davenport, Iowa; Springfield, Illinois; and Centralia, Illinois; all operating regular day hours only (closing about 5 p.m.), except as there is standby service through local newspaper offices. The Davenport office is mainly for relay of news in the Davenport-Moline-Rock Island area and it does not transmit to Chicago Associated Press office. However, Weather Bureau forecasts or warnings given to Associated Press in Springfield or Centralia will be sent immediately by those offices to Chicago for other distribution.

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The UNITED PRESS INTERNATIONAL has its central division headquar-
ters in Chicago where it operates a fully staffed office 24 hours a day,
seven days a week. In general, U.P.I.'s best distribution to any part of
Illinois is out of Chicago. Other U.P.I. offices serving Illinois and their
hours of operation are:

- a. St. Louis, Mo., 6 a.m. to 10:30 p.m. except 1:00 p.m. to 10:30 p.m.
on Sundays.
- b. Springfield, Ill., 6 a.m. to 6 p.m., closed on Sundays.
- c. Marion, Ill., approximately same as Springfield.

Springfield always sends to Chicago U.P.I. for further distribution, but
the St. Louis and Marion offices make further direct distribution in sou-
thern Illinois during hours they are open.

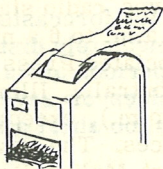
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Press associations also perform other services which are very impor-
tant to proper functioning of severe weather operations and warnings.
One of these is to report to the Weather Bureau any information on se-
vere storm occurrences not already known to the Bureau, and to supply
information on casualties or other evidence of severity. This informa-
tion may be vital to the issuance of subsequent warnings.

also direct

When disasters occur, news reports are of great value to the Weather
Bureau for assessing effectiveness of warnings, especially when the dis-
patches indicate whether warnings reached persons in the path of a storm.

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RADIO AND TELEVISION

Because Severe Weather Forecasts and Warnings are urgent and apply for short time periods, it is generally by radio and television that they reach the greatest number of people. In fact it is primarily by these quick means of reaching people affected, and the whole-hearted cooperation of radio and television stations, that a great many lives have been saved in recent years by the Weather Bureau alerting and warning system.

Radio and TV stations in and near the affected areas normally broadcast Weather Bureau severe weather forecasts, warnings, and severe weather statements at frequent intervals. Most stations break in on other broadcasts to give an urgent warning and for follow-up statements. When a warning is issued, the Weather Bureau first notifies radio and television stations that will reach persons in the path of the storm.

Many radio and TV stations also participate in use of the CONELRAD alerting system for quick distribution of Severe Weather WARNINGS. CONELRAD is used only for WARNINGS, and not for Severe Weather Forecasts. In this system, one or more of the key stations is notified by the Weather Bureau, and all other radio and television stations that monitor the given key station or stations are automatically alerted. Stations then broadcast the warning on their normal broadcast frequencies; they do not go off the air or change frequencies as they would in a civil defense alert.

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NEWSPAPERS

Newspapers throughout Illinois perform a valuable function in acquainting the public with the Weather Bureau severe storm forecast and warning system, and by reminders of the action to be taken in a severe weather emergency. This public knowledge contributes to the saving of lives when an emergency develops, and minimizes the possibility of undue alarm or misunderstanding when severe weather forecasts or warnings are issued by the Weather Bureau.

Newspapers sometimes publish severe weather FORECASTS, but this distribution is effective only for forecasts received near press time and only as the newspaper is immediately distributed, because the forecasts generally are for short time periods and are subject to revision on short notice. WARNINGS of tornadoes or severe thunderstorms, as distinct from FORECASTS, apply for too short a time period to permit effective newspaper distribution.

The Weather Bureau depends very much on newspapers for information by which to evaluate effectiveness of its severe weather operations, particularly the adequacy of forecasts and whether warnings actually reach the public in affected areas.

PUBLIC UTILITY COMPANIES

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 ublic utility companies in Illinois contribute appreciably in providing
 eports of severe weather. Many utility substations act as regular se-
 ore storm observers and the utility companies or substations are
 alled frequently by the Weather Bureau for information on suspected
 erevere weather.

ILLINOIS STATE WATER SURVEY

CONELRA At Champaign, the Illinois State Water Survey operates a sensitive
 WARNINGS radar capable of assisting in the detection of severe local storms over
 ere Weather all of Illinois. Reports are transmitted to the Weather Bureau at
 is notified b Chicago for use of the forecast center and are forwarded for the in-
 stations that formation of all other Weather Bureau offices concerned, including
 alerted. State SELS Center at Kansas City. The Meteorology Division of the
 frequencies survey also contributed a considerable amount of data and research
 id a civil de- severe storm conditions.

he Water Survey radar provides the most complete single radar cover-
 e of the state, but several Weather Bureau radars, notably at Chicago,
 ., Madison, Wis., Muskegon, Mich., Burlington, Iowa, St. Louis, Mo.,
 a in acquaint Columbia, Mo., Des Moines, Iowa, and Fort Wayne, Ind., cover parts of
 st and warn Illinois. There is also some assistance from military and Federal Avi-
 erevere weather tion Agency radars.

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LOCAL COMMUNITIES

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 many Illinois cities and communities have established local severe
 eather observing networks. These towns also have plans of action to
 ply when severe weather FORECASTS or severe weather WARNINGS
 re issued by the Weather Bureau for their areas. The plans may in-
 clude alerting volunteer observers and the local warning center when a
 severe weather forecast is issued for the area. Also, prearranged pub-
 ic signals may be sounded when a warning or a report of an approach-
 ing tornado is received. The city government (especially police and
 fire departments - assisted by Civil Defense and other volunteers),
 hospitals, Red Cross, etc., are alerted for possible disaster operations.

APPENDIX

WEATHER BUREAU OFFICES WITH RESPONSIBILITY FOR COUNTIES IN ILLINOIS

BURLINGTON, IOWA

Weather Bureau Airport Station

P. O. Box 417

Burlington, Iowa

Telephone: Plaza 4-6742

* M.I.C.: C. F. Jespersen

CAIRO, ILLINOIS

Weather Bureau Office

Cairo, Illinois

Telephone: CAIRO 216

* M.I.C. : L. H. Waite

CHICAGO, ILLINOIS

Weather Bureau Office

1400 U. S. Court House

Chicago 4, Illinois

Telephone: WABASH 2-1346

* M.I.C.: J. R. Fulks

Supervisor, Local Public

Service: I. W. Brunk

DUBUGUE, IOWA

Weather Bureau Airport Station

Dubuque, Iowa

Telephone: DUBUQUE 2-0174

* M.I.C.: P. J. Becker

EVANSVILLE, INDIANA

Weather Bureau Airport Station

6001 North U. S. 41

Airport Terminal Building - Room 22

Evansville 11, Indiana

Telephone: HARRISON 5-5549

* M.I.C.: S. W. Rumpy

MOLINE, ILLINOIS

Weather Bureau Airport Station

Airport Box 5

Moline, Illinois

Telephone: MOLINE 2-1726

* M.I.C.: L. W. Dick

PEORIA, ILLINOIS

Weather Bureau Airport Station

Greater Peoria Airport

Peoria, Illinois

Telephone: PEORIA 7-4566

* M.I.C.: W. A. McDaniel

ROCKFORD, ILLINOIS

Weather Bureau Airport Station

Greater Rockford Airport

Rockford, Illinois

Telephone: WOODLAND 3-8518

* M.I.C.: L. W. Dahlin

ST. LOUIS, MISSOURI

Weather Bureau Airport Station

Old Administration Building

Lambert Field

Hazelwood, Missouri

Telephone: PERSHING 1-6661

* M.I.C.: G. N. Brancato

SPRINGFIELD, ILLINOIS

Weather Bureau Airport Station

Capital Airport

Springfield, Illinois

Telephone: SPRINGFIELD 2-8941

* M.I.C.: L. C. Christensen

* Meteorologist in Charge

WEATHER BUREAU OFFICES' AREAS OF RESPONSIBILITY IN ILLINOIS

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Airport Station

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S
Airport Station
Airport

IA 7-4566
Daniel

NOIS
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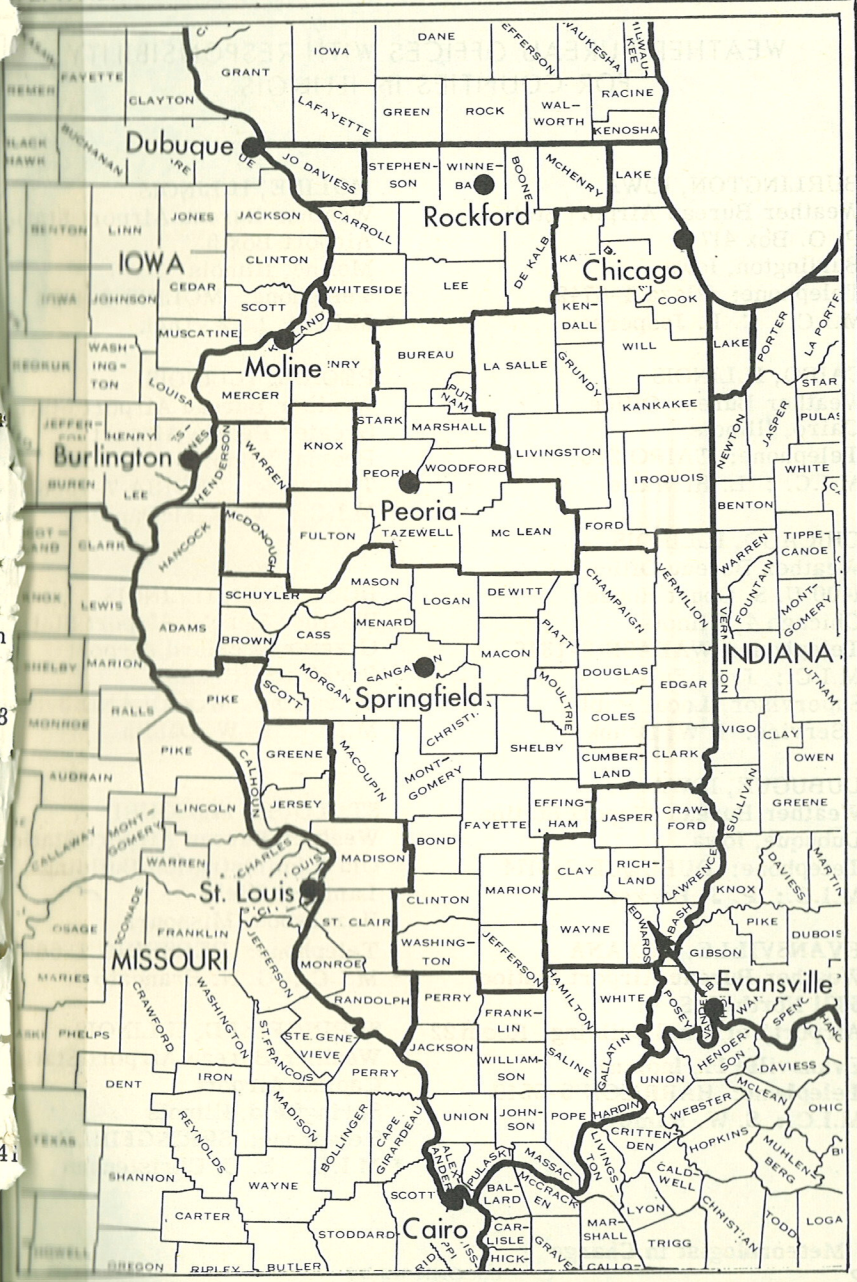
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